

SITE VISIT INFORMATION – CROXALL LAKES

Background

The main aim was to recreate some of the habitats which were once common features along our main rivers prior to their modification in the 19th and 20th centuries. The river has been heavily engineered in the past and was once much shallower and wider. The project aims at allowing natural river processes to occur by widening the channel (to over 90m in some places) encouraging it to become active in terms of deposition and bed-scouring. The scheme cost £161,000 of which £144,000 was capital works. Partners include Staffordshire Wildlife Trust in partnership with Lafarge Aggregates, Landfill Communities Fund, Natural England, The National Forest Company, the Environment Agency, Network Rail and May Gurney.

Baselines survey information has been collated for a number of invertebrate, bird, amphibian, fish, mammal and plant species at Croxall. UK and Staffordshire BAP wetland species recorded within two kilometres and within the last ten years include: white-clawed crayfish, harvest mouse, otter, water vole, common toad, eel, barn owl, snipe, lapwing, reed bunting and native black poplar. The UK BAP species, depressed (or compressed) river mussel has been recorded within three kilometres of the site. This is a species which is being targeted for specific survey work at Croxall to ascertain whether the habitats created during the scheme prove suitable for colonisation. Staffordshire Wildlife Trust will be carrying out repeat surveys for BAP and other indicator species at the site. Links with universities are in place to ensure that ongoing research and monitoring is carried out.

Lessons Learnt

It became clear that the restoration works could have been even bolder by lowering the whole of the bend down to lake/river level. This experimental work on the Tame at Croxall gave confidence that widening, combined with allowing river processes to work was an answer to the problems of poor channel structure in gravel rivers. This was part of the background to the much larger scheme carried out by the Wildlife Trust on the Tame/Trent at Croxall.

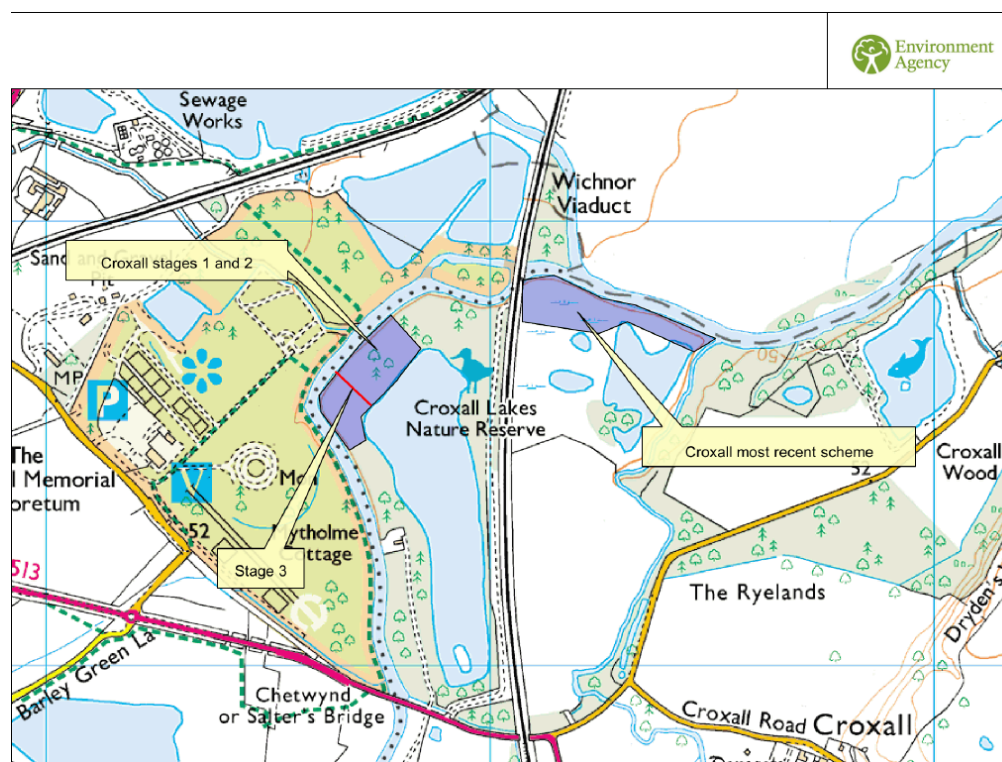


Figure 1 Croxall Lakes site map



Figure 2 Annotated aerial photograph © Environment Agency.



Figure 3 Widened channel with bars and islands



Figure 4 Islands being created

Earlier work at the site

Stage 1 (1997)

Along 400m of the Tame an underwater shelf about 4m wide was excavated to just below water level and the bank sloped back to an angle of 1:20 to a maximum of 30m at the point of the bend. The river in this reach had a very even width of about 25m before the works.

Stage 2 (2002)

It became clear that a larger increase in cross section at high flows would have been desirable. In 2002, the 400m of land between the river and the lake (an area of about 2.7ha) was lowered by 750mm. The highest point was lowered from 1.6 to about 0.85m above normal water level. The river height at bank full level was thus similarly lowered thus reducing velocity and thus increasing deposition on the bend. The soil was again put into the lake to create shallows.

Stage 3 (2008)

There was a 300mm pipe linking the pool at Croxall to the river. This was put in when gravel working on the site ceased. It allowed river water to enter and drain from the lake quite slowly, kept the lake level generally higher than the river and did not allow fish to move between the lake and the river. The poor in-channel habitat on the River Tame, combined with intermittent poor water quality has retarded the development of sustainable fish stocks. To counter this, the EA has created a series of “fish refuges/spawning areas” by linking pools to the river. In 2002 the pipe was replaced by a lower level open channel about 6m wide at bank top. This allows fish to enter and leave the pool and also lowered the lake level thus creating better shallows for waders.